

CHAPTEE IX

THE DISTILLATION GAS

UP to the present, the gaseous products which admJt of manufacture from pure carbon in the producer have been dealt with. However, in Nature, absolutely pure carbon is not at disposal for the purposes of producers, but fuels contain generally not inconsiderable amounts of bituminous ingredients, which, on heating in the producer, escape in the form of gas, and mingle with the steam-air gas. The solid fuel, however, is purified by means of this " degasification process " (i.e., coMng), and is able finally, in conjunction with the ingredients of the ash, to reach the gasification zone in the form of pure carbon. If one desires to form from the gas analysis an idea of the degree of completeness of the production of the steam-air gas in practice, this can only happen if one knows the composition and amount of the products of distillation of the fuel employed at the time. Herein, however, lies the most difficult point in the investigation of heating gas, since there are innumerable kinds of fuel, the actual composition of which, as a basis for each case, it is difficult to ascertain, because this composition is not constant, coals from the same stratum showing considerable differences. But if the overcoming of this difficulty were achieved it would not help much, since the composition of the products of distillation depends essentially on the temperature of the degasification, and on the rapidity with which this takes place. One is able therefore to obtain from one and the same fuel considerably divergent products of distillation. Experiments have not failed to establish a connection between the composition of the distillates and the composition of the fuel, though they all, on the ground mentioned, remain somewhat futile. There is nevertheless another way to be found, which furnishes at least an approximate solution of the question.